Asian Clam Field Methods- Substrate and Clam/Mussel Collection Team

1. Navigate to first sample station using GPS with pre-loaded sample locations

2. Anchor boat

3. Sound bottom with hand-held sounder or other sonar, record depth on field data sheet

4. Using a dredge sampler, collect a substrate grab and empty into large clean tupperware bin. Repeat two times (for a total of three grabs) and mix sediment using a large spoon until well combined.

5. Use soil pH meter to measure pH of substrate and record on field data sheet.

6. Perform a rough sieve of sample to remove mussels/clams/snails/insects from sample (use 2mm sized sieve)

7. After clams/mussels/snails are removed place in sample jar and preserve in field (label bottle with waterbody name, date, time, depth and sample location and put on ice in cooler)
    i. Return all sediment that is sieved into Tupperware container

8. Fill one 1-Liter bottle with substrate for sediment fractioning in lab (label bottle with waterbody name, date, time, depth and sample location)

9. Perform a horizontal plankton tow for 500 yards (use GPS to track distance traveled) using an 80 micron plankton net attached to a chain or rope. Dip net in water three times (without overtopping) to rinse plankton down to net cup, then drain to plankton jar and preserve with 1-2 mL of Lugol's solution (label bottle with waterbody name, date, time, sample location information and put on ice in cooler)

10. When data collection complete rinse all equipment clean with lake water then navigate to next sample location and repeat steps 2-9 above.

Analysis	Minimum # of Sampling Dates	Field Duplicates or Replicates	Field and Bottle Blanks	Minimum # of Samples to Lab (or Total Readings Taken)
Depth	1	1 replicate profile per waterbody	NA	Measured in field (profiles)
Soil pH	1	1 replicate per waterbody	NA	Measured in field
Sediment sample	1	1 duplicate / trip (5 sites/trips)	NA	52 + 5 dupes = 57
Clam/mussel/snail sample	1	1 duplicate / trip (5 sites/trips)	NA	52 + 5 dupes = 57

Equipment needs:

GPS unit with pre-loaded sample stations
Boat
Anchor
Depth sounder
Cooler with ice
Sample bottles (sediment, bivalve and plankton)
Tape/labels and sharpies/markers
Field data sheet
Dredge sampler (Eckman or similar)
Calibrated chain with clip
Plankton net
Lugol's solution
2mm sieve
Tupperware container and scoop/spoon
Sediment pH meter